IASET: International Journal of Biology,
Biotechnology and Food Science (IASET: IJBBFS)
ISSN(P): Applied; ISSN(E): Applied
Vol. 1, Issue 1, Jan – Jun 2016; 1-6

International Academy of Science,
Engineering and Technology
Connecting Researchers; Nurturing Innovations

DONOR INSEMINATION PRACTICE AMONG NIGERIAN GYNAECOLOGISTS

J. O KOMOLAFE[1], C. O AKINLEYE[2], N. A ADELEKE[3] & M. O KOMOLAFE OYEDELE[4]

[1]FMCOG, Department of Obstetrics & Gynaecology, College of Health Sciences, LAUTECH, Osogbo, Nigeria

[2]FWACP, Department of Community Medicine, Lautech Teaching Hospital, Osogbo, Nigeria

[3]FWACS, Department of Obstetrics & Gynaecology, College of Health Sciences, Uniosun, Osogbo, Nigeria

[4]BSC NURSING, Renal Unit, Department of Nursing, Lautech Teaching Hospital, Osogbo, Nigeria

ABSTRACT

Context

Male factor Infertility accounts for 20-48% of all Infertility unions in Nigeria. Severe forms of male factor infertility can be managed by intrauterine insemination of donor semen apart from intracytoplasmic sperm injection (ICSI) in assisted reproductive techniques.

Objectives

To determine attitude & practice of donor insemination among practicing gynaecologists in Nigeria.

Study Design, Settings and Subjects

Cross sectional study involving retrieving information about practice of donor insemination from practicing gynaecologists across Nigeria gathered together for annual scientific conference with the use of structured questionnaire.

Results

Over 50% (51.8%) of respondent have never done IUI using donor semen. Muslim was less likely to practice donor semen. Leading reasons cited for low practice of DI were its illegality & its resemblance to a form of adultery. DI practitioners are likely to be in tertiary centres & they use medical students mainly as donors. In 70.4% of times fresh semen samples are used for DI. Results is generally said to be less than 30% in terms of clinical pregnancy per DI.

Conclusion

Practice of DI when indicated is restricted even among practising gynaecologists. Concerted efforts should be made to make the practice of DI safer by use of frozen semen sample.

KEYWORDS: Artificial Insemination of Donor Sperm, Male Infertility, Nigeria Gynaecologists

INTRODUCTION

Male factor infertility accounts for 20-48% of all infertility unions in Nigeria[1,2,3] unfortunately most male factor infertility defy conventional method of treatment like antibiotics for couples, multivitamins, reproductive hormones for male counterparts' etc[4,5]. Options left therefore remains artificial insemination of washed husband semen (AIH), artificial insemination of donor sperm (AID) and assisted reproductive technology (ART).

When there is azoospermia or severe oligozoospermia AIH ceases to be an effective option. Even though assisted

reproductive technology (ICSI) has brought succor to some families in Nigeria, overwhelming majority of infertile couples cannot afford the present cost of treatment by ART technologies.

To complete three treatment cycles of either invitro fertilization or intra cytoplasmic sperm injection (ICSI) a couple needs between N2,500,000.00 to N5,000,000.00 ($ 12,500 – 25,000 US)

AID has long been used as a therapeutic option for couple with azoospermia or severe male factor infertility. This paper examiners the attitude and practice of 'AID' by Nigerian Gynaecologists.

METHODOLOGY

Structured questionnaires were given out to Gynaecologists drawn from different part of the country during the annual scientific conference of Society of Gynaecology & Obstetrics of Nigeria (SOGON AGM) to determine their attitude to and practice of AID.

120 questionnaires were given out of which 68 were filled and retuned giving return rate of 56%.

However, 12 of the returned questionnaires were left out because the responders were not yet specialist as at the time of filling the questionnaire. Being a trainee- specialist will bias significantly the practice of AID as trainee will only do what their unit or supervising consultants do until they qualify & determine their area of interest.

Findings were fed into SPSS version 15 and variables analysed to determine frequencies of AID practice and factors that significantly affected AID practice.

RESULTS

Table I shows the socio demographic features of the respondents. Majority were in their 3rd are 4th decades, 82.1% of them were married while 73.2% of them practiced Christianity. 37.5% have been practicing as specialist for over 10years.

Of the 56 eligible respondents, 29 (51.8%) have never practiced artificial insemination of donor sperm. Those practicing in federal medical centers (83.3%) followed by those in general hospital (75%) are less likely to have practised AID. Those aged 50-59 years and those who have been practicing for only 8-9 years are least likely to have done AID among the other age groups. Those practicing Islam are less likely to have done AID too. Table 2 shows reasons for not having done AID before. The commonest reason being that AID was against participant religious belief (some participant opined that AID was a form of adultery in their religion), other common reason were AID was not area of interest & that working environment did not provide the privacy/confidentiality that practitioner desired.

Of the 27 (48.2%) who have done AID, 74% of them counselled couple together for AID while the remaining counselled couple separately. 88.8% of them tried to match husband phenotype characters with that of donor. All gynaecologists that have performed AID did basic screening of the sperm donors before engaging them. Indications for which AID was done included azoospermia (51.8%), severe oligozoospermia (3.7%), unexplained infertility (3.7%), failed surgical sperm aspiration technologies (3.7%) and others (44.4%). Medical students constituted 51.8% of donors, hospital staff are used in 7.4% of cases, while couple relative, friend of gynaecologist or sperm bank are used in 33.7% of case. Overwhelming majority still use fresh semen (70.4%) the procedure is done in the presence of the husband in only 29.6% of cases. The donor semen is mixed with husband semen before insemination in only 7.4% of cases. Figure 1 show the part

of the genital tract where the semen is deposited. Intrauterine insemination is carried out in 44.4% of cases.

81.5% of the AID practitioners claimed that success per treatment was less than 30%. 59.3% of them will abandon treatment after 4-6 cycles of no success. 58.8% would like to continue doing AID while 7.4% liked to abandon the treatment because of availability of intracytoplasmic sperm injection in Nigeria.

Table 3 shows the problem commonly encountered by AID practitioners in Nigeria. The commonest being getting donors and obtaining husband consent.

DISCUSSIONS

It is not surprising that most of the Gynaecologists practice in the teaching hospital presently, though with increasing development of health care system and increase in standard of living more Gynaecologists should be seen in private practice, state General hospitals, and federal medical centers with decreasing number seeking green pastures outside the country.

Donor sperm insemination (AID) is a common procedure worldwide with increasing acceptance over the years[6,7]. The study shows that a third (34%) Nigeria Gynaecologists do not practice AID because the practice is against their religious beliefs. Muslim Gynaecologists are more likely to be affected in this regard but Christian Gynaecologists especially of the Catholic Church may also not practice AID[12]. Religion is one factor that may limit the practice of AID in Nigeria especially once a third party is enlisted in the process of reproduction. Unlike many countries however that forbid donor insemination use Nigeria constitution of 1999 cannot be said to be restrictive as regarding donor insemination[13]. A quarter (24.1%) of Nigerian Gynaecologists does not practice AID because it is not their area of interest. 60% of those that practice AID have done beyond 10 inseminations.

In as much as specialists are encouraged to sub specialize; involvement in the treatment of infertility should be further promoted Nigerian Gynaecologists as infertility is the leading cause for presentation in Nigerian gynaecological clinics[1]. With the high prevalence of male factor infertility in Nigeria, and the present exorbitant cost of assisted reproductive technology, AID practice should continue to play prominent role. Artificial insemination is meant to be performed by all qualified physicians when indicated as a basic procedure[12]. There will therefore not be a justifiable reason for it to be unavailable at the Gynaecologist clinics. The public needs to be enlightened to improve acceptance rate.

The indications for practice of AID by Nigerian gynaecologist, mainly are azoospermia, and combined defects in semen analysis. Rarely it is performed for failed surgical aspiration of semen for ICSI treatment. In most developed nations AID is only offered after failure of different testicular sperm retriever procedure or after fertilization failure by ICSI procedure or due to genetic reasons. High cost of IVF and low- buying power of Nigerians would account for AID having more indications in this part of the world. For cultural & legal restrictions, other indications like single mothers, lesbian couple for which AID is popular in Western world are not acceptable in Nigeria.

It is known that frozen semen should be used for AID since the advent of Human Immuno Deficiency Virus menace. The last fresh semen for AID was done in 1987 in Israel [6], but in the millennium years, majority of AID practitioners in Nigeria are forced to still use fresh semen. In as much as this practice of using fresh donor semen should be discouraged and stopped, if an urgent solution in terms of the Federal/ State government empowering Government tertiary health centers to have sperm bank services, the practice no doubt will continue or alternatively frozen sperm bank services

will only be available at private fertility centres at mostly unaffordable costs. Very few fertility centres in Nigeria have sperm bank facilities & those that have currently have not opened their doors to other clinics for frozen semen service

Though it is cheaper to do cervical insemination of unwashed semen compared to IUI that uses washed semen, IUI has been shown to be associated with higher pregnancy rate[8,9.] Infact for couples with unexplained or male factor infertility the live birth rates per couple were not significantly different after treatment with intrauterine insemination (with or without ovarian stimulation) or in vitro fertilization[10]. Many more practitioners should be encouraged to exchange non-IUI inseminations for IUI insemination.

Though this is a form of descriptive study with respondent recalling success of AID that they have performed equivalent of cumulative pregnancy rate, the success rate of the majority of less than 30% is low compared to cumulative pregnancy rates of 62.5% after 6months, 82.4% after 10months and 75% after 12 months quoted by other authors[6,7]. Improvement of method of AID in Nigeria will lead to better result.

About 40% of AID practitioners in Nigeria will abandon the treatment after 3 cycles of no pregnancy. Women who became pregnant in a USA study were inseminated for average of 3.7months[11], while median length of time to conception was 4.9months in another study[6] which also revealed that for those that continued to undergo AID beyond 6 months, the monthly probability of pregnancy did not decline[6]. Persistence may therefore be needed to improve results from AID in Nigeria.

CONCLUSIONS

In conclusion, AID will continue to be relevant for some time to come in treatment of severe male factor infertility in Nigeria. Provision of regional sperm banks by the Federal/State governments with improvement on the techniques presently being used will improve the safety and success of the procedure. Fertility centres with sperm banks should open their doors to family physicians that need frozen semen to be able to get it without any stress.

ACKNOWLEDGEMENTS

We declare that the authors did not receive any grant from any quarters in carrying out this study. This study data has not been presented in any scientific conference till date.

REFERENCES

1. Adrisa A, Ojiyi E. Pattern of Infertility in North-Eastern Nigeria. Trop. J. Obstet. Gynaecol. 17(1). 2000.
2. Imade GE, Sagay As, Pam IC, Ujah IOA, Daru PH. Semen Quality in male partners of infertile couples in Jos, Nigeria. Trop. J. Obstet. Gynaecol. 17(1), 2000.
3. Esimai DA, Orji EO, Lasisi AR. Male Contribution to Infertility in Ile-Ife, Nigeria. Nigeria Journal of Medicine, Vol 11, (2). 2002.
4. Ajabor LN, Ezimokhai M, Kadiri A. Male contribution to Subfertility in Benin City. Trop. J. Obstet. Gynaecol. 1981, 2:53-5.
5. Hull MGR, Elazener CM, Kelly NJ. Population study of causes, treatment and outcomes of infertility. Br. Med. J. 1985, 291: 1693- 1697.

6. Botchan A, Hauser R. Gamzu R, Yogev L, Paz G, Yavetz H. Results of 6139 artificial insemination cycles with donor spermatozoa. Human Reproduction Vol. 16, 11 pp 2298-2304, 2001
7. Bargquist CA, Rock JA, Miller J, Guzick DS, Wentz AC, Jones GS. Artificial inseminations with fresh donor semen using the cervical cap technique: A Review of 278 cases. Obstetrics & Gynaecology.
8. Ford WC, Mathur RS, Hull MG. Intrauterine insemination: Is it an effective treatment for make factor infertility? Baillieres Clin. Obstet. Gynaecol. 11, 691- 710.
9. Hard WW, Randolph JF Jr, Ansbacher R, Merge AC, Ohl DA, Brown, AN. Comparison of intracervical, intrauterine and intratubal techniques for donor insemination. Fertil Sterile 1993 59(2): 339 - 42.
10. Goverde AJ, Mc Donnette J, Vermeiden JPW, Schats R, Rutten FFH, Schoemaker J. Intrauterine insemination or in-vitro fertilization in idiopathic subfertility and male subfertility: a randomized trial and cost-effectiveness analysis lancet 2000; 355: 13-18.
11. Curie-Cohen M, Luttrell L, Shapiro S. Current Practice of artificial insemination by donor in the United States. N Engl. J. Med. 300: 585, 1979.
12. Artificial Insemination. Wikipedia as edited Nov 2015. https://en.wikipedia.org>wiki>Artificial Insemination. Visited on 27/01/2016.
13. J. Olayinka. Human Rights & Medically Assisted Reproduction in Nigeria: Problems &Prospects. 2009. Retrieved from academia.edu. Opened on 27/01/2016.

APPENDICES

Table 1: Sociodemographic Features of Participating Gynaecologists

Age

Age of Years	No	%
30 – 39	25	44.6%
40 - 49	22	38.3%
50 - 59	3	5.4%
≥ 60yrs	6	10.7%
Total	**56**	**100%**
Marital Status		
Married	46	82.2%
Single	5	8.9%
Missing	5	8.9%
Total	**56**	**100%**
Religion		
Christianity	41	73.2%
Islam	5	8.9%
Missing	10	17.9%
Total	**56**	**100%**
Practice location		
Teaching hospital	30	53.6%
Private, employer	9	16.1%
General hospital	8	14.3%
Federal Medical Centres	6	10.7%
Private, employee	3	5.3%
Total	**56**	**100%**

Year of Practice as Specialist		
0-4	22	39.3%
5-9	13	23.2%
10-14	5	8.9%
15-19	5	8.9%
≥20	11	19.6%
Total	**56**	**100%**

Table 2: Reason Why Gynaecologist do Not Practice AID

Reason	No	%
Not area of interest	7	24.10
Unfriendly setting at working place	4	13.7
Afraid of HIV transmission	2	6.9
Refusal by couples	2	6.9
Offer other form of treatment	1	3.5
Unsure of legality	1	3.5
Religion	10	34.5
No reason	2	6.9
Total	**29**	**100**

Table 3: Common Problems Encountered with the Practice of AID in Nigeria

Problem	No (%)
Difficulty in getting donors	5(18.5%)
Getting husband Consent	5(18.5%)
Maintaining anonymity	1(3.7%)
Getting wife consent	1(3.7%)
Defaulting from treatment on account of cost	1(3.7%)
Counselling couple	1(3.7%)